

1 CLAIMS:

2 1. A method of forming an insulative material along a  
3 conductive structure, comprising:

4 providing a conductive structure over a substrate;

5 forming an electrically insulative material along at least a portion  
6 of the conductive structure, the electrically insulative material comprising  
7 at least one of  $\text{Si}_x\text{O}_y\text{N}_z$  and  $\text{Al}_p\text{O}_q$ , wherein p, q, x, y and z are greater  
8 than 0 and less than 10;

9 forming a dopant barrier layer over the electrically insulative  
10 material; and

11 forming a doped oxide material over the dopant barrier layer, the  
12 dopant barrier layer preventing dopant migration from the doped oxide  
13 material to the electrically insulative material.

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15 2. The method of claim 1 wherein the electrically insulative  
16 material is formed to a thickness of at least about 50Å.

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18 3. The method of claim 1 wherein the electrically insulative  
19 material consists essentially of the  $\text{Si}_x\text{O}_y\text{N}_z$ .

4. The method of claim 1 wherein the electrically insulative material consists essentially of the  $\text{Si}_x\text{O}_y\text{N}_z$  and is against the conductive structure.

5. The method of claim 1 wherein the electrically insulative material consists essentially of the  $\text{Al}_p\text{O}_q$ .

6. The method of claim 1 wherein the electrically insulative material consists essentially of the  $\text{Al}_2\text{O}_3$  and is against the conductive structure.

7. The method of claim 1 wherein the forming the dopant barrier layer comprises chemical vapor depositing silicon oxide from a TEOS precursor.

8. The method of claim 1 wherein the doped oxide material comprises BPSG.

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9. A method of forming a transistor structure, comprising:  
forming a transistor gate over a substrate, the transistor gate comprising a sidewall which comprises electrically conductive material;  
forming an electrically insulative material along the electrically conductive material of the transistor gate sidewall; the electrically insulative material comprising at least two separate layers; the at least two layers having different chemical compositions from one another; a first of the at least two layers comprising at least one of  $\text{Si}_x\text{O}_y\text{N}_z$  or  $\text{Al}_p\text{O}_q$ , wherein p, q, x, y and z are greater than 0 and less than 10; a second of the at least two layers consisting essentially of silicon and nitrogen; and  
anisotropically etching the electrically insulative material to form a spacer along the transistor gate sidewall; the anisotropically etching comprising etching both of the first and second of the at least two layers.

10. The method of claim 9 further comprising implanting a dopant into the substrate and utilizing the spacer to align the dopant during the implant.







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dioxide over the substrate; and  
consisting of a  
wherein the element is a transistor gate.

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transistor gate.

22. The structure of claim 21 wherein the electrically insulative material extends across a top of the transistor gate.

23. The structure of claim 21 wherein the electrically insulative material does not extend across a top of the transistor gate.

24. The structure of claim 21 wherein the electrically insulative material does not extend across a top of the source/drain regions.

25. The structure of claim 21 wherein the electrically insulative material consists of aluminum and oxygen.

26. The structure of claim 21 wherein the electrically insulative material consists of  $\text{Al}_2\text{O}_3$ .

27. The structure of claim 21 wherein the electrically insulative material consists of silicon, nitrogen and oxygen.

28. The structure of claim 21 wherein the electrically insulative material comprises a layer of silicon nitride against a layer of the  $\text{Si}_x\text{O}_y\text{N}_z$ .

29. The structure of claim 21 wherein the electrically insulative material comprises a layer of silicon nitride against a layer of the  $\text{Al}_p\text{O}_q$ .



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